

FLAGELLATES AND DESMIDS

NEW TO MASSACHUSETTS

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The many lakes, ponds, and marshy areas in Massachusetts provide numerous and varied habitats for phycological studies. The freshwater algal vegetation of the eastern and southeastern regions of the state has been investigated rather thoroughly (Webber, 1963). Published accounts of the algae of western Massachusetts, however, appear to be limited to those by West (1889) and Webber (1964).

A variety of interesting flagellates and desmids has been collected from two locations in the Amherst, Massachusetts area. These locations are a roadside seepage area adjacent to State Route 9, one mile southeast of Amherst, and Hawley Bog, Hawley, Mass.

Because many of the algae collected from these two locations have not been recorded from Massachusetts, a report of their presence in the state is warranted to attain accurate distributional data for such species.

Flagellates were determined after Prescott (1962), while Irénée-Marie (1938) was consulted for the majority of desmid identifications.

EUGLENOPHYTA

Euglena acus var. *rigida* Hueb. Plate I, fig. 1.

Cells $62\mu \times 100\mu$, elongated, tapering posteriorly, rigid while in motion, with two rod-shaped paramylon bodies. Common. Amherst.

Phacus helikoides Poch. Plate I, figs. 2, 3.

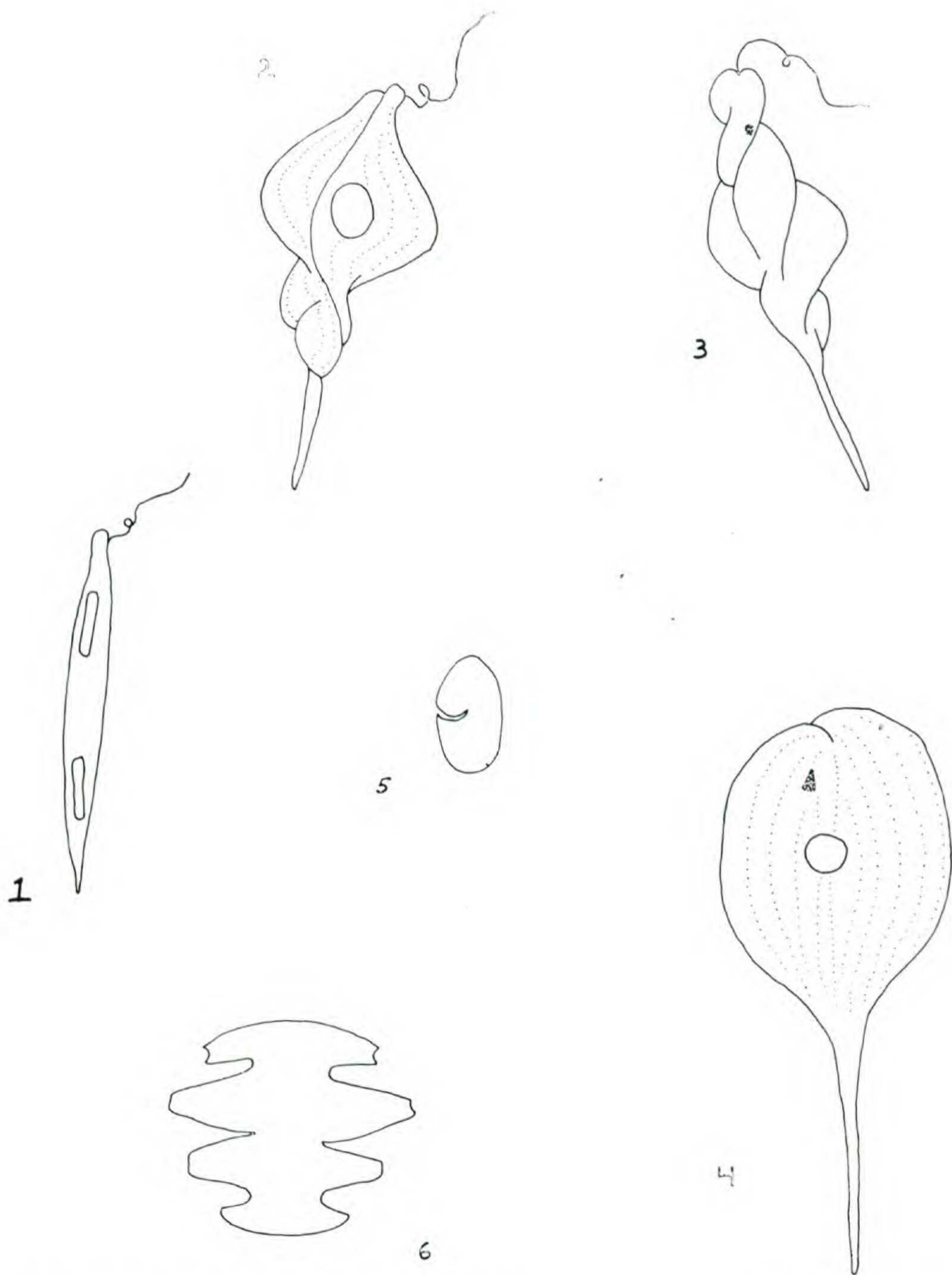
Cells $49-55\mu \times 100-111\mu$, elongate-pyriform, twisted throughout but tapering posteriorly to a straight caudus slightly less than $\frac{1}{2}$ the length of the cell, periplast longitudinally striated, one large and centrally placed circular paramylon body. Common. Amherst.

P. longicauda (Ehrenb.) Dujardin Plate I, fig. 4.

Cells $31-62\mu \times 112-136\mu$, ovoid, broadly rounded anteriorly, tapering posteriorly to a straight caudus as long as the cell body, periplast longitudinally striated, one central circular paramylon body. Common. Amherst.

P. pyrum (Ehrenb.) Stein

Cells $18.6\mu \times 37\mu$, ovoid-pyriform, tapering posteriorly to a



Figs. 1-6, all $\times 450$. Fig. 1: *Euglena acus* var. *rigida*; figs. 2, 3: *Phacus helikoides*; fig. 4: *P. longicauda*; fig. 5: *Hemidinium nasutum*; fig. 6: *Micrasterias pinnatifida* forma *rhomboidea*.

straight caudus, anteriorly with a conspicuous papilla on either side at the point of flagellar attachment, periplast ribbed and spiralling posteriorly to the right, paramylon not observed. Common. Hawley. *Leptocinclis acuta* Prescott

Cells $12\mu \times 31\mu$, pyriform, tapering posteriorly, periplast spirally striated, paramylon as two lateral plates. Rare. Amherst. First record for Massachusetts.

Trachelomonas armata var. *longispina* (Playf.) Defl.

Test $31\mu \times 44-55\mu$, broadly rounded, beset with short spines anteriorly and a mixture of short and long spines posteriorly. Common. Amherst.

T. horrida Palmer

Test $24\mu \times 44\mu$, ovoid, completely covered with numerous spines of varying length. Common. Amherst.

T. volvocina Ehrenb.

Test 24μ dia., spherical and smooth. Common. Amherst.

PYRRHOPHYTA

Hemidinium nasutum Stein Plate I, fig. 5.

Cells $18.6\mu \times 31\mu$, elliptical and flattened, transverse furrow incomplete. Common. Amherst. First record for Massachusetts.

CHLOROPHYTA

Because many of the desmids collected are ubiquitous and, therefore, well known, they are presented in list form. Those particular species new to Massachusetts are so indicated. Desmids were collected at the Amherst location, unless otherwise noted.

Closterium abruptum West

C. Kuetzingii Breb.

C. libellula Focke var. *intermedium* Roy & Bis.

C. setaceum Ehrenb.

C. ulna Focke

Staurastrum avicula Breb. var. *subarcuatum* (Wolle) West

S. biennianum var. *ellipticum* Wille

S. controversum Breb. (Irénée-Marie, 1938, pl. 55, fig. 12; pl. 56, fig. 11.) First record for Massachusetts.

S. crytoserum Breb.

S. dejectum Breb.

S. Dickei Ralfs. Hawley.

S. furcatum Ehrenb. var. *pisciforme* (Breb.) Turner (Irénée-Marie, 1938, pl. 55, figs. 9, 10.) First record for Massachusetts.

S. gracile Ralfs

S. Johnsonii West & West var. *depauperatum* G. M. Smith (Irénée-Marie 1938, pl. 53, figs. 2, 3.) First record for Massachusetts.

S. paradoxum Meyen

S. pentacerum (Wolle) G. M. Smith. Hawley.

S. polymorphum Breb.

S. setigerum Cleve.

Micrasterias pinnatifida (Kuetz.) Ralfs

- M. pinnatifida* forma *rhomboidea* Brunel Plate I, fig. 6.
Rare. Hawley. First record for Massachusetts.
M. rotata (Grev.) Ralfs
Pleurotaenium nodosum (Bailey) Lundell
P. nodulosum Breb.
Xanthidium antilopaeum (Breb.) Kuetz. var. *hebridarum* West &
West

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